

tive, but occasionally producing one or two fertile seed. Type locality: bank of Penobscot River, Bangor, May 16 and June 7, 1904. (No. 35 O. W. K. Type). In general appearance the plant is almost exactly intermediate between *S. cordata* and *S. coactilis*, the aments having a marked resemblance to those of *S. cordata*, while in other characters the shrub resembles *S. coactilis*.

BANGOR, MAINE.

SALICORNIA EUROPAEA AND ITS REPRESENTATIVES IN EASTERN AMERICA.

M. L. FERNALD.

THE annual Saltwort or Samphire of our salt marshes, which has passed very generally under the name *Salicornia herbacea*, presents, upon the coast of New England and eastern Canada, three strongly marked tendencies to which it is here proposed to call attention. But first we must consider briefly the nomenclatorial status of the species, which has been recently called to mind by Messrs. Britten and Rendle of the British Museum.¹

Linnaeus, in the first edition of the *Species Plantarum* (1753), enumerated four species of *Salicornia*, with the first of which alone we are here concerned. This was

“1. SALICORNIA articulis apice crassioribus obtusis. *europaea*.
Mat. med. 8. herbacea.

Salicornia herbacea. *Fl. suec.* 1.

Salicornia annua. *Sauv. monsp.* 7.

Salicornia. *Hort. cliff.* 490. *Roy. lugdb.* 205.

β *Salicornia semipervivens*. *Sauv. monsp.* 7. fruticosa.

Kali geniculatum majus. *Bauh. pin.* 289.

Habitat in Europæ litoribus maritimis. h ⊙

*Conferantur annua & sempervirens utrum specie distincta?”*²

In the 2d edition (1763) of the *Species*, Linnaeus entirely discarded the name *Salicornia europaea* and published the name *S. herbacea* for

¹ Britten & Rendle, *Journ. Bot.* XLV. 104 (1907).

² L. Sp. 3 (1753).

the annual plant, setting off as a distinct species the perennial *S. fruticosa*. Subsequent authors have been inclined to follow the second edition of the *Species* instead of the first, and to designate the annual plant of both Europe and America as *S. herbacea* L. (1763).

The name *Salicornia europaea*, however, as shown not only by its position on the page but by its italic-type, was intended by Linnaeus, in 1753, to designate a species embracing two variations, one annual and herbaceous, the other evergreen and fruticose; and it must, of course, be retained for at least one of its components, although in 1763 Linnaeus himself discarded the name. In fact, in 1762, one year prior to the publication of the name *Salicornia herbacea*, the annual herbaceous plant was clearly treated by Hudson, in his *Flora Anglica*, as *S. europaea*, and several forms (including the fruticose plant) were indicated without names. Thus it is doubly certain that the herbaceous plant, clearly defined by Hudson in 1762 as *S. europaea*, should retain that name instead of the later *S. herbacea* of Linnaeus (1763).

The plant which is usually interpreted as typical *Salicornia europaea* (*S. herbacea*) is somewhat bushy-branched, with the ascending simple or commonly forking spikes comparatively slender (1.5–2.5 mm. thick). This plant is common on our Atlantic coast, from eastern New Brunswick to Georgia, and it occurs in alkaline places in the interior of New Brunswick and New York, also on the Pacific coast.

Another plant, differing somewhat from the typical *Salicornia europaea* in having the elongate spikes much thicker (3–4.5 mm. thick) and more commonly simple or subsimple, is represented in the herbaria examined by several sheets from the coast of New Brunswick, Nova Scotia, and New England, and from Salina, New York; and it is apparently of wide distribution. This thick-spiked extreme seems to be the plant described by Koch as *S. herbacea*, β *pachystachya*.

The third plant is more distinct from the upright bushy-branched *Salicornia europaea*, for its freely-forking branches are very lax and often drooping, the lowermost commonly much elongated and quite prostrate upon the ground. The plant, thus forming closely prostrate or loosely spreading mats, is the characteristic representative of the species about the mouth of the River St. Lawrence, and from there it follows the coastal marshes southward as far as the entrance to the Bay of Fundy. It also occurs in alkaline places in the Saskatchewan region. This plant is identical with much Old World material which is considered without question to be *S. prostrata* Pallas. In its best

development it appears sufficiently distinct from *S. europaea*, but the distinctions seem to be merely habitual, and no characters of flower or fruit have been found by which it can be separated from the upright plant.

A fourth plant, known from the Valley of the Red River of the North in Minnesota and Manitoba to central Kansas and the Rocky Mountains, should be watched for in alkaline regions farther east. This is the recently described *Salicornia rubra* Nelson, which resembles typical *S. europaea*, but is easily separated by the shorter joints of the spikes.

The distinctions and nomenclature of these four annual plants with blunt or bluntish inconspicuous scales may be summarized as follows.

* Joints much longer than thick, conspicuously exceeding the middle flower.

S. EUROPAEA L. Erect (1–4.5 dm. high), from simple to freely branched, the *branches ascending*, green, turning red in autumn; scales obscure and very blunt, making a truncate barely emarginate termination of the long joints of the *slender* (1.5–2.5 mm. thick) tapering *spikes*; *middle flower* much higher than the lateral ones, *shorter than the joint*; fruit pubescent; seed 1.3–2 mm. long.—Sp. 3 (1753); Huds. Fl. Angl. 1 (1762); Britten & Rendle, Journ. Bot. XLV. 104 (1907). *S. europaea (herbacea)* L. Sp. 3 (1753). *S. herbacea* L. Sp. ed. 2, 5 (1763); and most later authors.—Salt marshes of the coast, New Brunswick to Georgia; interior salt springs, etc., New Brunswick and New York; also on the Pacific coast. (Eurasia.)

Var. **pachystachya** (Koch) n. comb. *Spikes much thicker* (3–4.5 mm. thick).—*S. herbacea*, β *pachystachya* Koch, Syn. ed. 2, 693 (1844).—Similar range, less common.

Var. **prostrata** (Pallas) n. comb. *Branches horizontally spreading or drooping*, very soft and lax, the *lowest much elongated and decumbent*; or the whole plant depressed and matted.—*S. prostrata* Pallas, Ill. Pl. 8, t. 3 (1803). *S. herbacea*, β *prostrata* Moq., Chenop. Enum. 115 (1840).—Brackish or alkaline shores, Lower St. Lawrence River to Washington County, Maine.

** Joints about as thick as long, scarcely exceeding the middle flower.

S. RUBRA Nelson. Bushy-branched (0.5–2 dm. high), the abundant simple or forking branches ascending, turning red in autumn; scales broadly triangular, blunt or subacute; spikes slender-cylindric (2–3.5 mm. thick), blunt, rather closely jointed; flowers crowded, the middle

one higher than the others and usually reaching the tips of the joints; fruit pubescent; seed 1 mm. long.—Bull. Torr. Bot. Cl. xxvi. 122 (1899).—Low alkaline places, Manitoba and western Minnesota to central Kansas, and westward to the Rocky Mts.

GRAY HERBARIUM.

NOTES ON PLANTS OF CHESTERVILLE, MAINE.

LILLIAN O. EATON.

IN addition to the interesting plants of Chesterville already reported¹, the following, perhaps worthy of note, have been found in this vicinity, during the past few seasons. The grasses and sedges were collected and determined by Mrs. Agnes Chase of the Department of Agriculture at Washington, in the summer of 1906; the remaining plants, unless otherwise stated, being the collections of the writer. For aid in final identification of various species I am indebted to Dr. D. W. Fellows, Mr. A. A. Eaton, and Professor M. L. Fernald.

Oxalis Acetosella L., var. *subpurpurascens* DC. A few plants of this variety were found in a cedar swamp, among a thick colony of the species, by Mrs. Chase and the writer, July 3, 1906. The variety differed from the typical *O. Acetosella* only in a whitish appearance of the foliage and in the color of the petals, the latter being wholly a purplish-pink. After identifying the plants, Mr. Fernald writes: "I have known this variety in America only from Manchester, Vermont."

Lysimachia thyrsiflora L. Fence-row, in damp soil, July, 1906 (F. J. Keyes).

Sabbatia campestris Nutt. A single well flowered plant was found, September, 1906, on ground left fallow for a season.

Spiranthes Romanzoffiana Cham. Roadside ditch, August, 1906. Also found in a field, August 14, 1902, by C. H. Knowlton (See Ames, Orchidaceae, fasc. i. 139).

Scheuchzeria palustris L. Abundant on one bog, August, 1904.

Carex pauciflora Lightf. Plentiful on two bogs, July and August, 1904.

¹ RHODORA, ii. 123; v. 82.